

NEW NEARCTIC CRANE-FLIES (TIPULIDÆ, DIPTERA). PART IX.

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The majority of the species considered in this part were secured by Dr. P. W. Claassen in Estes Park, Colorado. Others were taken by Messrs. Frison, Lindley and McAtee. The writer is indebted to all the above gentlemen for the privilege of studying this material. Unless stated otherwise, the types of the species are preserved in the writer's collection.

Elliptera coloradensis, new species.

General coloration dark brown, the mesonotal praescutum brownish black; wings grayish subhyaline, the cord and outer end of cell $1st\ M^2$ indistinctly seamed with brownish gray; cell $1st\ M^2$ closed; Sc^2 located before the origin of R_s .

Female.—Length 8 mm.; wing 10 mm.

Rostrum and palpi dark brown. Antennæ dark brown, the flagellar segments oval. Head dark brown.

Pronotum obscure brownish yellow. Mesonotal praescutum obscure yellow with three broad, brownish black stripes that are practically confluent, restricting the ground-colour to the humeral region and the lateral margins; scutum yellow, each lobe with two confluent brownish black areas; scutellum obscure yellow; postnotum dark brown. Pleura brownish yellow, the mesepisternum darker; mesosternum between the fore and middle coxæ brownish black. Halteres pale, the knobs a little darkened. Legs with the coxæ and trochanters yellow; remainder of the legs dark brown, the femora paler basally. Wings grayish subhyaline, the costal region indistinctly more yellowish; cord and outer end of cell $1st\ M^2$ narrowly seamed with brownish gray; veins dark brown; stigma lacking. Venation: Sc rather short, Sc^1 ending about opposite two-thirds the length of R_s , Sc^2 located before the origin of R_s ; R pale at the apex; R^1 bent suddenly cephalad at the tip so that cell R^1 is widened at its outer end; deflection of R^{4+5} slightly angulated; $r-m$ oblique in position; cell $1st\ M^2$ closed, a little shorter than vein M^{1+2} beyond it; basal deflection of Cu^1 just before the fork of M .

Abdomen dark brown, the pleural integuments paler, the genital segment paler. Ovipositor with the valves elongate.

Habitat.—Colorado.

Holotype—♀, Fall River, Estes Park, August 24, 1919, (P. W. Claassen).

Erioptera (Erioptera) subseptemtrionis, new species.

Male.—Length 4.5 mm.; wing 6 mm.

Similar to *E. septemtrionis* O. S., differing as follows:

General coloration dark brown, the lateral margins of the praescutum and two stripes on the thoracic pleura paler. Legs dark brown, the femoral bases paler. Wings darker with the stigma much more distinct; veins straighter, M^{1+2} , M^3 and Cu^1 showing little tendency to bend toward the wing-tip as in *E. septemtrionis*. Male hypopygium with the spine of the inner pleural appendage much longer than in *septemtrionis*, appressed to the appendage and almost straight; the blade of this appendage is flattened and without a concave depression formed by a short, lateral ridge as in *septemtrionis*.

Habitat.—Colorado.

May, 1920

Holotype—♂, Fall River, Estes Park, August 24, 1919, (P. W. Claassen).

Paratopotypes—2 ♂'s.

Dicranota montana, new species.

General coloration gray, the mesonotal praescutum with three brown stripes; wings pale brown, the stigma dark brown; a faint brown cloud at *r-m*; cell M^1 present; cell 1st M^2 open by the atrophy of *m*.

Male.—Length 9.3 mm.; wing 9.2 mm.

Rostrum and palpi dark brown. Antennæ rather elongate, dark brown, the flagellar segments somewhat incrassated on their inner face. Head dark brown, presumably gray pruinose in dry specimens.

Mesonotal praescutum gray with three conspicuous, dark brown stripes; scutal lobes dark brown; remainder of the mesonotum and the pleura dark brown. Halteres pale, the knobs slightly darker. Legs with the coxæ dark brown basally, paler brown apically; trochanters brownish yellow; remainder of the legs dark brown, the femoral bases more yellowish. Wings with a pale brownish tinge; stigma oval, dark brown; a faint brownish cloud at the deflection of R^5 and *r-m*; veins dark brown. Venation: Sc^1 ending opposite *r*; Rs short, strongly arcuated, angulated or weakly spurred beyond the base; R^{2+3+4} equal to or shorter than *r-m*; R^{2+3} before *r* longer than this cross-vein; outer deflection of R^2 close to the tip of R^1 ; deflection of R^5 short to very short; cell M^1 present; cell 1st M^2 open by the atrophy of *m*.

Abdomen dark brown, the pleural integument pale with a linear brown mark opposite each segment. Male hypopygium with the pleurites short and stout, the outer angles slightly produced; pleural appendage bifid, the outer arm short, fleshy, with numerous setæ, the inner arm longer, flattened into a yellowish chitinated blade. Penis-guard a broad depressed structure, the caudal margin produced into three short points.

Habitat.—Colorado.

Holotype—♂, Fall River, Estes Park, August 24, 1919, (P. W. Claassen).

Paratopotypes—3 ♂'s.

Nephrotoma sphagnicola, new species.

Close to *N. incurva* (Lw.); occipital spot broadly subtriangular; mesonotal scutum trivittate, there being a narrow, black, median stripe in addition to the marks on the scutal lobes; thoracic pleura indistinctly spotted with reddish brown.

Female.—Length 13.5–14 mm.; wing 10.5–11.8 mm

Frontal prolongation of the head yellow, the dorso-median line black; nasus long, black; palpi dull yellow, the last segment passing into brownish. Antennæ with the first segment brown, more reddish beneath; second segment pale; flagellum black. Head broad, bright orange, the occipital mark broadly rounded or subtriangular, rather indistinct; a small brown spot on either side of the vertical tubercle, adjoining the inner margin of the eye; genæ tinged with dark brown.

Pronotum dull yellow. Mesonotum pale orange-yellow with three black stripes, the median stripe very broad in front, narrowed behind; lateral stripes short, straight, not connected with the rounded velvety spot laterad of their anterior ends; scutum trivittate with black, a distinct, black, median vitta, in addition to the triangular black areas on the scutal lobes; scutellum brownish,

paler on the sides, with a narrow, blackish median vitta; postnotum orange-yellow, the median area brownish, broader on the posterior portion. Pleura yellow, indistinctly spotted with reddish brown; a narrow, almost black line immediately before the base of the halteres. Legs with the coxæ dull yellow, indistinctly brown at the base; trochanters dull yellow; femora dull brownish yellow, the tips darker; tibiæ brown, the tips narrowly dark brown; tarsi dark brown. Wings with a faint yellowish tinge, the costal area but little brighter; stigma dark brown; a narrow brown seam along the cord, passing along both branches of *Cu* to the wing-margin; tip of the wing narrowly darkened; a pale vitreous area in cell *1st R*¹ before the stigma. Venation: cell *M*¹ broadly sessile; *m-cu* present, located just before the fork of *M*.

Abdominal tergites obscure yellow; segment one with a black basal ring; other segments with the caudal margin blackened, this broadest on segments two to four, more or less produced cephalad medially so as to be almost continuous along the dorso-median line; the black caudal margin is narrow and less distinct on the succeeding segments; lateral margins of the segments broadly dark brown; sternites yellow. Ovipositor with the tergal valves very long and slender, acute, greatly exceeding the sternal valves.

Habitat.—Illinois.

Holotype—♀, Antioch, Lake Co., June 5, 1919, (T. H. Frison).

Paratopotype—♀.

Type in the collection of the Illinois Natural History Survey.

This species was submitted to Dr. Dietz for his expert opinion and he agrees that the fly is undescribed, most closely related to *N. incurva* (Lw.), from which it may be told by the diagnostic characters given above. The types were secured by Mr. Frison in a sphagnum bog, associated with other species of Tipulidæ of northern affinities (*Limnophila poetica* O.S., *Tipula sarta* Lw., *Tipula senega* Alex., and others).

Tipula claasseni, new species.

Head and thorax brownish black; wings grayish subhyaline, the base and subcostal cell yellowish; abdominal tergites orange-yellow, trivittate with dark brown; ovipositor with the valves short and fleshy.

Female.—Length 11.8–12 mm.; wing 13–14 mm.

Frontal prolongation of the head rather short, narrowly dark brown above, obscure yellowish on the sides; nasus distinct. Antennæ short, dark brown, the second scapal segment a little paler. Head dark brownish black, paler on the sides of the vertex and on the postgenæ.

Thorax, in alcohol, dark brownish black, in dry specimens possibly pruinose, the dorso-pleural membranes obscure yellow. Halteres light brown. Legs with the coxæ and trochanters brownish black; femora reddish, narrowly tipped with dark brown; tibiæ brown, the tips slightly darker; tarsi brownish black. Wings grayish subhyaline, the base strongly yellow; cells *C* and, especially, *Sc*, light yellow; stigma small, brown; a conspicuous obliterative area before the stigma in cell *1st R*¹ and another in the end of cell *R* that crosses vein *M*¹⁺² and almost fills cell *1st M*². Venation: *Rs* long, longer than *R*² but shorter than *R*³; *R*²⁺³ a little longer than *r-m*; deflection of *R*⁴⁺⁵ short or practically obliterated, the *r-m* cross-vein correspondingly lengthened; cell *1st M*² small, pentagonal; petiole of cell *M*¹ a little longer than *m*; *m-cu* short.

Abdominal tergites orange-yellow with three conspicuous brownish black stripes, on the subterminal segments the entire sclerites are darkened; basal sternites yellow, the others passing into brown. Ovipositor with all the valves short and blunt, somewhat as in the *bicornis* and *collaris* groups of the genus.

Habitat.—Colorado.

Holotype—♀, Lawn Lake, Estes Park, altitude 11,000 feet, August 27, 1919, (P. W. Claassen).

Paratopotype—♀.

This curious fly might well be mistaken for a male, but the specimens are undoubtedly females. Somewhat similar structures are found in the *collaris* and *bicornis* groups. The species is respectfully dedicated to the collector, Dr. P. W. Claassen.

SUMMARY OF WOOD'S MYRIAPODA PAPERS.

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We note by Science¹ that Dr. Horatio C. Wood, emeritus professor of materia medica, pharmacy and general therapeutics in the Medical School of the University of Pennsylvania, died January 3, last, at the age of 79. Before taking up the study of medicine, he was interested in natural history, and was a worker in the Academy of Natural Sciences, publishing several papers in the *Insecta*, and nine on the closely related group *Myriapoda*. In these latter we have by far the most extensive work done in this country on this group by any individual up to his time, and these papers must rank as the foundation on which all work on the *Myriapoda* has since been built.

The first of these papers (1)² was a preliminary report on the genus *Scolopendra*, and describes four species as new. The next year he issued a general catalogue of the *Chilopoda* (2) in which two new genera and twenty-nine new species are included. In the following year three papers appeared, the first on the *Polydesmidae* (3) includes the descriptions of ten new species, the second one on the *Julidae* (4), fourteen new species, and the last (5), two new genera and the same number of species. In 1865 appeared his "Myriapoda of North America" (6), in which there are eighteen genera and ninety-two species listed, three of the latter being classed as new. This is an extensive monograph illustrated with numerous cuts and three plates, two of which are coloured. It discusses the external structure, and brings the systematic side of the subject up to date, reviewing the work of all earlier writers with the notable exceptions of C. L. Koch and Saussure, whose writings must have been unknown to Wood, judging from omissions and the resulting synonyms. The same year he published the one paper he wrote on foreign material (7), describing a new genus (*Oligaspis*) and species (*O. puncticeps*) from Port Natal, and a single new species (*Glomeris bicolor*) from Hong Kong. His work on the group closed with two short papers published in 1867, the first one (8) describing four new species from Texas, and the second (9), six new species from Illinois and California. He retained his interest in insects for some time after this, but after 1875 cellular botany and medicine filled all his time.

1. Vol. 51:106-107. Jan 30, 1920.

2. Numbers in parenthesis refer to bibliography at end.
May, 1920